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## Allowable Claims

## Drawings

### Specification

### Claim objections

Claims 16-19, 29, 38, and 60-62 have been amended to overcome the objections of the Examiner.

1 **35 USC § 112**

2 Claims 9-12, 14-19, 22, 26, 28, 35-36, 41, 44-45, 56 and 59-60 are rejected  
3 under 35 USC § 112, 2<sup>nd</sup> paragraph, as being indefinite.

4 Claims 14, 15, 17, 18, 19, 26, 35, 36, 44, 46, 56, 59, and 60 are rejected  
5 based on lack of antecedents. The claims have been amended to address the  
6 antecedent issues.

7 Claims 9-12, 16, 22, 28, 41, and 44 are rejected by the Examiner as not  
8 clearly indicating how recited elements operate with one another and/or a  
9 connection of the recited elements with one another. Reconsideration is requested.

10 The role of the claims is not to explain the invention. "The purpose of  
11 claims is not to explain the technology or how it works, but to state the legal  
12 boundaries of the patent grant. A claim is not 'indefinite' simply because it (the  
13 claim) is hard to understand when viewed without benefit of the specification."  
14 Autogiro Co. of America v. United States, 384 F.2d 391, 397, 155 USPQ 697, 701  
15 (Ct. Cl. 1967).

16 It is respectfully submitted that failure to fully describe aspects of an  
17 invention in the claims is not a proper basis for a §112 rejection. The specification  
18 clearly explains the concepts questioned by the Examiner.

19 Therefore, Applicant respectfully requests withdrawal of the §112  
20 rejections of claims 9-12, 16, 22, 28, 41, and 44.

21  
22 **35 USC § 103 (a)**

23 Claims 1-13, 16-24, 27-29, 31-34, 37-45, 48-49 and 52-67 are rejected as  
24 being unpatentable under 35 USC § 103(a) over U.S. Patent 5,818,261 Perner  
25 (Perner) in view of U.S. Patent 5,923,211 to Maley et al (Maley). Perner is cited

1 for its depiction of pseudo-differential signaling. Maley is cited for its description  
2 of a reference voltage generator.

3 In addition, **claims 14, 25, 30, 35, 46, 47, and 50** are rejected under §  
4 103(a) as being obvious over Perner, Maley, and U.S. Patent 5,644,254 to Boudry.

5  
6 **Independent claim 1** recites an apparatus as follows:

7 1. An apparatus that receives pseudo-differential voltage  
8 signaling including a common reference voltage and a plurality of  
9 signal voltages, comprising:

10 a reference receiver that receives the common reference voltage  
of the pseudo-differential voltage signaling and in response produces a  
buffered voltage that is derived at least in part from the common  
reference voltage; . . .

11 It is respectfully submitted that the combination of Perner and Maley  
12 proposed by the Examiner does not satisfy this element of claim 1.

13 Perner shows two receivers 150 that evaluate signals Li0 and Ln0 against a  
14 common reference voltage VRO. The Examiner cites this as an example of  
15 pseudo-differential signaling. However, the Examiner concedes that Perner does  
16 not teach a reference receiver as recited in claim 1. Rather, the Examiner proposes  
17 that Perner's circuit could have benefited from the use of the circuit shown in the  
18 lower half of Maley's Fig. 1.

19 The Examiner states that Maley shows an undistributed voltage VDDIO  
20 that is buffered to create VREF11, and that such a buffering arrangement could  
21 have been advantageously used within Perner's Fig. 1. Specifically, the Examiner  
22 argues that Maley's buffer could have been used to buffer the supply voltage 110  
23 of Perner to result in a "new and improved reference voltage generator . . ."  
24 (Office Action, page 7, lines 4-5). The result of this configuration would be to  
25 buffer Perner's VREF supply voltage.

1 Note, however, that *VREF* is not part of any pseudo-differential signal.  
2 Because of this, the configuration proposed by the Examiner does not satisfy the  
3 element of claim 1 quoted above. Specifically, claim 1 recites a reference receiver  
4 that “receives the reference voltage of the pseudo-differential voltage signaling . .  
5 .”. In the configuration proposed by the Examiner, Maley’s buffer 28 (which the  
6 Examiner has asserted as performing the functions of the reference receiver) would  
7 not receive a pseudo-differential reference voltage as recited in claim 1. Rather, it  
8 would receive and buffer a different voltage, which Perner identifies as VREF.

9 Perner’s VREF is not part of any pseudo-differential signaling. Rather, the  
10 pseudo-differential signals of Perner are defined by a shared reference VRO,  
11 which is not the same as voltage VREF. Buffering VREF does not meet the  
12 recited limitations of claim 1: the proposed modification of Perner’s circuit would  
13 not result in a “reference receiver that receives the reference voltage of the pseudo-  
14 differential voltage signaling . . .” as recited in claim 1.

15 For this reason, the Office Action does not establish a prima facie case of  
16 obviousness with respect to claim 1, and claim 1 should therefore be allowed.

17 **Dependent claims 2-14 and 16-18** depend from allowable claim 1, and are  
18 allowable for that reason as well as for their recitation of additional elements that  
19 are neither shown nor suggested by the cited prior art.

20 **Independent claim 19** is rejected on grounds to those given with respect to  
21 claim 1, over a proposed combination of Perner and Maley.

22 Claim 19 recites “pseudo-differential signal voltages that represent values  
23 in terms of relationships between the pseudo-differential signal voltages and the  
24 common reference voltage.” In addition, claim 19 recites “a reference buffer that  
25 receives the common reference voltage . . .”.

1 This part of claim 1 is described by being satisfied by the proposed  
2 combination of Perner and Maley, as discussed with reference to claim 1.  
3 However, as discussed there, the proposed combination does not result in a circuit  
4 in which a buffer receives a common reference voltage used as part of pseudo-  
5 differential signaling. Specifically, the proposed combination would result in  
6 buffering VREF. As already discussed, VREF is not the same of the shared  
7 reference VRO of Perner's pseudo-differential signaling.

8 Accordingly, the proposed combination of references does not result in the  
9 claimed subject matter. The rejection of claim 19 is thus unfounded, and should be  
10 withdrawn.

11 **Dependent claims 20-25 and 27-28** depend from allowable claim 19, and  
12 are allowable for that reason as well as for their recitation of additional elements  
13 that are neither shown nor suggested by the cited prior art.

14 **Independent claim 29** is rejected on grounds similar to those given with  
15 respect to claim 1, over a proposed combination of Perner and Maley.

16 Claim 29 recites that pseudo-differential signal voltages represent values in  
17 terms of relationships between such voltages and a "common reference voltage."  
18 Claim 29 also recites "a reference buffer *that receives the common reference*  
19 *voltage . . .*".

20 As with previous independent claims, claim 29 is rejected as resulting from  
21 the proposed combination of Perner and Maley. However, the Examiner has  
22 proposed a combination in which a buffer is used to buffer a supply voltage. The  
23 "common reference voltage" in Perner is VRO. However, the proposed  
24 combination results in buffering VREF, which is different than VRO.  
25 Accordingly, even the proposed combination would not result in Maley's buffer

1 that “[receiving] the common reference voltage.” Claim 29 is thus allowable over  
2 the cited combination of prior art, and action to that end is respectfully requested.

3 **Dependent claims 30-35 and 37-38** depend from allowable claim 29, and  
4 are allowable for that reason as well as for their recitation of additional elements  
5 that are neither shown nor suggested by the cited prior art.

6 **Independent claim 39** is rejected on grounds to those given with respect to  
7 claim 1, over a proposed combination of Perner and Maley.

8 Claim 39 recites “receiving pseudo-differential signaling that includes a  
9 common reference voltage and a plurality of signal voltages.” In addition, claim  
10 39 recites “producing a buffered voltage based at least in part on the common  
11 reference voltage.” As in the previous rejections, the Examiner has proposed  
12 buffering Perner’s supply voltage VREF to allegedly accomplish the same result.  
13 However, as demonstrated above, this does not result in buffering a “common  
14 reference voltage” that is used in conjunction with a plurality of signal voltages.  
15 Perner’s “common reference voltage” is VRO—not VREF. Accordingly, the  
16 proposed combination does not satisfy the elements of claim 39, and claim 39  
17 should be allowed.

18 **Dependent claims 40-50 and 52-53** depend from allowable claim 39, and  
19 are allowable for that reason as well as for their recitation of additional elements  
20 that are neither shown nor suggested by the cited prior art.

21 **Independent claim 54** is similarly rejected over a proposed combination of  
22 Perner and Maley. Among other things, claim 54 recites that “said individual  
23 signal receiver adjusts its associated signal voltage by the buffered voltage to  
24 produce an output voltage.” *The Examiner has not addressed this element or*  
25 *attempted to show how it might result from the proposed combination of Perner*

1 *and Maley.* Furthermore, it is respectfully asserted that this element would not  
2 result from the proposed combination. Because of this, the rejection of claim 54 is  
3 unsupported, and should be withdrawn.

4 **Dependent claims 55-58** depend from allowable claim 54, and are  
5 allowable for that reason as well as for their recitation of additional elements that  
6 are neither shown nor suggested by the cited prior art.

7 **Independent claim 59** similarly recites that “the second stage of said  
8 individual two-stage receiver adjusts the voltage differential signal by the buffered  
9 voltage to produce an output voltage.” *As with claim 54, the Examiner has not*  
10 *addressed this element or attempted to show how it might result from the proposed*  
11 *combination of Perner and Maley.* Furthermore, it is respectfully asserted that this  
12 element would not result from the proposed combination. Accordingly, the  
13 rejection of claim 59 is unsupported, and should be withdrawn.

14 **Dependent claims 60-61** depend from allowable claim 59, and are  
15 allowable for that reason as well as for their recitation of additional elements that  
16 are neither shown nor suggested by the cited prior art.

17 **Independent claim 63** similarly recites “adjusting one of the pseudo-  
18 differential signal voltages by the buffered voltage to produce an output voltage.”  
19 *The Examiner has not addressed this element or attempted to show how it might*  
20 *result from the proposed combination of Perner and Maley.* Furthermore, it is  
21 respectfully asserted that this element would not result from the proposed  
22 combination. Accordingly, allowance of claim 63 is respectfully requested.

23 **Dependent claims 64-67** depend from allowable claim 63, and are  
24 allowable for that reason as well as for their recitation of additional elements that  
25 are neither shown nor suggested by the cited prior art.

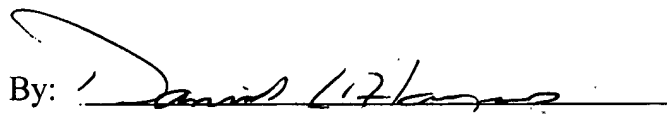
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2 **Conclusion**

3 The arguments above address particular elements of the independent claims  
4 that are not suggested by the prior art cited in the Office Action. Although the  
5 arguments focus on these particular elements, both the independent and dependent  
6 claims recite further elements that distinguish over the cited prior art. However, in  
7 light of the allowability of the claims based on the arguments set forth, it is  
8 unnecessary at this time to discuss these additional elements and how they  
9 distinguish over the cited art. Applicant reserves the right to set forth such  
10 additional distinguishing features and arguments relating thereto, as might become  
11 necessary to overcome any future rejections made by the Office.

12  
13 It is respectfully submitted that all claims are in a condition for allowance,  
14 and action to that end is requested. The Examiner is requested to telephone the  
15 undersigned if that would be helpful in expediting allowance.

16  
17 Respectfully submitted,

18  
19 Dated: 3/14/05

20 By:   
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